



Discussion and Status of the Solid Waste Management & Recycling Strategies included in the Climate Change Proposed Scoping Plan

California Integrated Waste Management Board
Strategic Policy Development Committee
November 10, 2008

Draft Scoping Plan, Proposed Scoping Plan, ARB Schedule

- ❑ Draft Scoping Plan released on 6/26/08
- ❑ Proposed Scoping Plan released on 10/15/08
- ❑ 2020 GHG emissions target = 427 MMTCO₂e
- ❑ Adopt Proposed Scoping Plan by January 1, 2009
 - ❑ Specific measures to achieve 169 MMTCO₂e reductions (planned measures total 174 MMTCO₂e)
 - ❑ Appendices & supplemental documents
- ❑ Adopt mandatory reporting rules by January 1, 2009
- ❑ Adopt regulations to implement plan by January 1, 2011
- ❑ 2050 GHG emissions target = 80% reduction below 1990 levels

Proposed Scoping Plan Recommendations

- Mix of strategies that combine market mechanisms, other regulations, voluntary measures, and fees
- Key elements:
 - Energy efficiency programs
 - Renewable energy
 - California cap and trade program linked to WCI
 - Targets for transportation-related emissions
 - Existing laws and policies (Pavley, LCFS, etc.)
 - Targeted fees

Recycling & Waste Management Strategies in Proposed Scoping Plan

- Landfill Methane Control (Discrete Early Action) – 1 MMTCO₂e
- Increasing Efficiency of Landfill Methane Capture – TBD*
- Commercial Recycling – up to 5 MMTCO₂e*
- Increase Production & Markets for Compost – 2 MMTCO₂e*
- Anaerobic Digestion – 2 MMTCO₂e*
- Extended Producer Responsibility & Environmentally Preferable Purchasing – TBD*

*Reductions from these measures are not currently counted towards the AB 32 2020 reduction goal of 174 MMTCO₂e.



Other Recycling & Waste Management Strategies

- PSP Appendix C – Sector Overviews & Emission Reduction Strategies
 - Liquefied Natural Gas (LNG) from Landfill Gas (further research)
 - Watershed-Friendly Landscape Guidelines (supporting regional land use strategies)

Landfill Methane Capture

- Proposed Lead Agency – ARB
- Jan 2009 - regulation to ARB Board for adoption
- 22-page draft regulatory language posted on web site
- In effect – Fall 2009; Early Action Item - in place by 1/1/2010
- Expect annual reduction of ~1 MMTCO₂e
- Install new methane control systems at landfills currently without systems
- Establish statewide performance standards to maximize methane capture efficiencies

<http://www.arb.ca.gov/cc/landfills/landfills.htm>

Commercial Recycling

- Proposed Lead Agency – CIWMB
- Implementation Schedule – TBD
- Expect annual reduction of ~5 MMTCO₂e (lower bound)
- Will achieve increased recovery of recyclables with high potential for GHG reductions
- Implementation approach – Voluntary, Mandatory, Hybrid

Increase Compost Production & Markets

- Proposed Lead Agency – CIWMB
- Implementation Schedule – TBD
- Expect annual reduction of ~2 MMTCO₂e (lower bound)
 - LCA of organics management options
- ARB commitment to work with CIWMB , CDFA, Caltrans on financial incentives for use of compost
- Organics Roadmap – December 2008 Board Meeting

Anaerobic Digestion

- Proposed Lead Agency – CIWMB
- Implementation Schedule – TBD
- Expect annual reduction of ~2 MMTCO₂e
 - LCA of organics management options
 - Additional benefit – Produces renewable energy from biomass & contributes to 33% RPS goal (1.2 million mWh)
- Diverts high methane-producing waste types such as food waste, green waste, & other organics to AD facilities
- Potential for synergies with methane capture at large dairies (co-digestion)

Extended Producer Responsibility & Environmentally Preferable Purchasing

- Proposed Lead Agency – CIWMB (EPR), DGS (EPP)
- Implementation Schedule – TBD
- Expect annual reduction of – TBD
- EPR
 - CIWMB adopted EPR Framework Sept 2007 (revised Jan 2008)
 - CIWMB is seeking statutory authority to implement EPR Framework
- EPP
 - Collaborate with DGS on Environmentally Preferable Product choices
 - Leverage the State's buying power
- EPR & EPP – measures are undergoing further development and evaluation to define potential GHG reductions

Additional Strategies in Scoping Plan that Involve CIWMB

- Glass manufacturing
- High GWP foams & insulation
- Green Building
- Water efficiency programs
- Tire inflation & fuel-efficient tire standards
- Local government programs – transportation, energy, waste/recycling, water use
- Climate change curriculum for K-12 as part of Education & Environment Initiative

Major Issues Under Evaluation by ARB

- Cap & Trade
 - How much should the PSP rely on Cap & Trade?
- Allocation of Allowances
 - How should allowances be distributed?
- Offsets
 - What should role of offsets be?
- Use of Revenue
 - What are the best uses of revenue?
- Co-Benefits
 - How will the PSP impact air pollution & public health?

Outstanding Issues that Impact R&WM Sector

- Need to account for indirect emissions in GHG inventories
- Need to integrate R&WM measures with other industry sectors
- Need for GHG Quantification Tools
 - Especially organics, recycling for use by local govt & industry
- Need for Protocol Development

Key Issues For CIWMB

- Implications for measures not included in 2020 reduction goal.
- Authority to implement measures
- Implementation approach
 - Voluntary, mandatory, hybrid
 - Financial incentives (allowances, allowance set-asides, revenue from sale of allowances, offsets, grants)
 - Regulatory Approach
- Uncertainties related to costs and/or cost-effectiveness
- Resources to implement
 - Administrative fee to cover PY costs
 - Research needs

Next Steps

- Work with ARB on authority, implementation, & resource issues
- Review Proposed Scoping Plan, Appendices, & supplemental documents
- Complete LCA and Economic Analysis of Organic Management Options
- Complete Economics Study for Commercial Recycling
- Complete CCAN project with ILG
- Continue participation on CAT Subgroups
- Implementation of all proposed measures (requires additional resources)

Next Steps – cont'd

- Participate in 7 CAT Subgroups
- Participate in Protocol Development
 - Work with CCAR & ARB on protocols for Co-Digestion & Community Operations
 - Pursue protocol development for composting & recycling
 - Serve on Technical Advisory Group for Chicago Climate Exchange
- Participate in ARB/CAPCOA Composting Work Group
- Work with USEPA on Climate Change activities



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Questions?